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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/038,016      | 01/03/2002  | R. Lawrence Ives     | 3522                | 6609             |

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EXAMINER

A, MINH D

ART UNIT PAPER NUMBER

2821

DATE MAILED: 02/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/038,016

Applicant(s)

IVES, R. LAWRENCE

Examiner

Minh D A

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 and 16 is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-15 and 17-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 6, 9-10, 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 6, 9-10, 13, the phrase "a front wall and a rear wall located in cavity" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6, 8-10, 12-13, 15 and 17 are rejected with the best of understood under 35 U.S.C. 102(b) as being unpatentable by Symons (US 6,380,803).

Regarding claims 1, 6, 9-10, 12-13 and 17, Symons discloses the multiple depressed collector (30) comprising:

an electrically conductive dissipation cavity (29);

a front wall located at one side of the dissipation cavity (29) having an aperture (16) to allow the passage of the electron beam into the cavity (29);

a rear wall in the dissipation cavity (29), opposite the front wall, positioned and shaped such that electrons which strike it, and secondary electrons, are captured in the dissipation cavity (29); and a voltage source (VB or AC source(40)) electrically connected to the collector (30). See figure 1, col.4, lines 54-67 and col.5, lines 1-65.

Regarding claims 2, 4 and 5, Symons also discloses the depressed collector (30) for use with a device emitting an electron beam containing electrons traversing into the collector where energy is recovered from the electron beam, the collector (30) comprising: means for depressing the voltage of the collector (30); and means for trapping the electrons after they exit the electron beam device. See figure 1, col.4, lines 54-67 and col.5, lines 1-65.

Regarding claim 3, Symons discloses the depressed collector (30) for use with a device emitting an electron beam containing electrons traversing into the collector where energy is recovered from the electron beam, the collector (30) comprising: means for decelerating said electrons after they exit the electron beam device; and means for trapping said electrons after they exit said electron beam device. See figure 1 and 5, col.5, lines 12-19 and col.10, lines 26-58.

Regarding claims 8 and 15, Symons discloses the rear wall is shaped such that the reflected electrons and the secondary electrons are captured in the dissipation cavity. See figures 5-7, col.11, lines 29-67 and col.12, lines 1-3.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7, 14 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Symons (US 6,380,803).

Regarding claims 7, 14, 18-19, Symons discloses the claimed invention except for the rear wall is planar or the electron beam is a sheet electron or the electron beam is a large aspect ratio annular electron beam. It would have been an obvious matter of design choice to have planar or sheet electron or the large aspect ratio annular electron beam, since applicant has not disclosed that the planar or the sheet electron or the large aspect ratio annular electron beam solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the planar or sheet electron or the large aspect ratio annular electron beam.

***Allowable Subject Matter***

7. Claims 11 and 16 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art does not teach or fairly suggest that, a conductive reflector electrically and mechanically attached to said interior cavity in said enclosure, opposite said rectangular aperture, positioned at an angle to said incident rectangular sheet electron beam to reflect the electrons into the interior cavity; and means for electrically energizing said collector such that the total voltage difference between said collector and said cathode is significantly less than the voltage difference between said cathode and said device body in combination with all limitations recited in independent claims 11 and 16.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Symons . (US 5,650,751); Rawls, Jr. (US 3,824,425 and Doyle (US 3,717,787) are cited to show the depressed electron beam collector.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (703) 605-4247. The examiner can normally be reached on M-F (7:30 –4:30 PM).

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (703) 308-4856. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and (703) 872-9319 for final communications.


Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (703) 308-0956.

Examiner

Minh A

Art unit 2821

02/04/03

  
Don Wong  
Supervisory Patent Examiner  
Technology Center 2800